

What is claimed is:

1. A wall-climbing robot comprising:

- 5 (a) a chassis, said chassis comprising a topside and an underside;
- (b) a rotor attached to said chassis and rotatable with respect to the chassis, said rotor comprising a radial prominence;
- 10 (c) a foot attached to said prominence, said foot comprising means for adhering to a surface; and
- (d) an active drive means operatively connected to said rotor.

15 2. The wall-climbing robot of claim 1 further comprising an element attached to the underside of said chassis, said element comprising means for adhering to a surface.

20 3. The wall-climbing robot of claim 1 wherein said rotor further comprises a plurality of prominences.

25 4. The wall-climbing robot of claim 3 wherein said prominences are substantially equispaced around the rotor.

5. The wall-climbing robot of claim 3 further comprising a plurality of feet with a foot attached to each of said plurality of prominences.

30 6. The wall-climbing robot of claim 3, wherein said prominences are positioned at substantially equal radii around

the axis of the rotor.

7. The wall-climbing robot of claim 5, wherein said
feet are positioned at substantially equal radii around the
5 axis of the rotor.

8. The wall-climbing robot of claim 1, wherein said
means for adhering is an adhesive.

10 9. The wall-climbing robot of claim 8, wherein said
means for adhering is a pressure sensitive adhesive.

10. The wall-climbing robot of claim 8, wherein said
means for adhering comprises an adhesive of polymerizing
15 styrene, butadiene naphthenic oil, calcium carbonate, and
hydrogenated polyterpene resin.

11. The wall-climbing robot of claim 1, wherein said
rotor comprises a hub, a leg connected to said hub, and a foot
20 connected to said leg.

12. The wall-climbing robot of claim 11, wherein said
robot further comprises a plurality of legs and a plurality of
feet.

25 13. The wall-climbing robot of claim 3, wherein a
maximum of two prominences on said rotor are able to contact a
surface at any time.

30 14. The wall-climbing robot of claim 5, wherein a
maximum of two feet on said rotor are able to contact a

surface at any time.

15. The wall-climbing robot of claim 1 further comprising a means for the remote control of said active drive means.

16. The wall-climbing robot of claim 1 wherein a foot contacts a surface over less than half of a revolution of the rotor.

17. A wall-climbing robot comprising:

- (a) a chassis;
- (b) a first rotor attached to said chassis and rotatable with respect to the chassis, said first rotor comprising a first radial prominence;
- (c) a second rotor attached to said chassis and rotatable with respect to the chassis, said second rotor comprising a second radial prominence;
- (d) a first foot attached to said first radial prominence, said first foot comprising means for adhering to a surface, and a second foot attached to said second radial prominence, said second foot comprising means for adhering to a surface; and
- (e) an active drive means operatively connected to said first rotor and to said second rotor.

18. The wall-climbing robot of claim 17, wherein the means of adhering to a wall is adhesive.

19. The wall-climbing robot of claim 18, wherein the means of adhering to a wall is a pressure sensitive adhesive.

5 20. The wall-climbing robot of claim 18, wherein said means for adhering comprises an adhesive of polymerizing styrene, butadiene naphthenic oil, calcium carbonate, and hydrogenated polyterpene resin.

10 21. The wall-climbing robot of claim 17, wherein said first rotor comprises a first plurality of prominences and a first plurality of feet attached to said first plurality of prominences, and said second rotor comprises a second plurality of prominences and a second plurality of feet
15 attached to said second prominences.

22. A method of using the wall-climbing robot of claim 21, wherein no fewer than one foot on each of said first rotor and said second rotor contacts a surface at any time.

20 23. The wall-climbing robot of claim 21, wherein at least two feet of said first plurality of feet are able to contact a surface during a least a small arc of a revolution of said first rotor.

25 24. The wall-climbing robot of claim 23, wherein no more than two feet of the first plurality of feet contact a surface at any time.

30 25. The wall-climbing robot of claim 17 further comprising a means for the remote control of said active drive

means.

26. The wall-climbing robot of claim 19 further comprising a means for the remote control of said active drive means.

27. The wall-climbing robot of claim 21, wherein said first plurality of prominences are equispaced around said first rotor.

28. The wall-climbing robot of claim 27 wherein said first plurality of feet are positioned at substantially equal radii around the axis of the first rotor.

29. The wall-climbing robot of claim 17 further comprising an axle attached to said chassis, wherein said first rotor is attached proximate to an end of said axle.

30. The wall-climbing robot of claim 29 wherein said second rotor is attached proximate to an end of said axle.

31. The wall-climbing robot of claim 17 further comprising a skid mounted to said chassis able to contact a surface.

32. The wall-climbing robot of claim 17 further comprising a roller connected to said chassis able to contact a surface.

33. The wall-climbing robot of claim 31, wherein said skid is substantially remote from said first rotor.

34. The wall-climbing robot of claim 32, wherein said roller is substantially remote from said first rotor.

5 35. A wall-climbing robot comprising:

- (a) a chassis;
- (b) a first rotor attached to said chassis and rotatable with respect to the chassis, said first rotor comprising a first radial prominence;
- (c) a second rotor attached to said chassis and rotatable with respect to the chassis, said second rotor comprising a second radial prominence;
- (d) a first foot attached to said first radial prominence, said first foot comprising means for adhering to a surface, and a second foot attached to said second radial prominence, said second foot comprising means for adhering to a surface; and
- (e) a first active drive means operatively connected to said first rotor, and a second active drive means operatively connected to said second rotor.

25 36. The wall-climbing robot of claim 35, wherein the means of adhering to a wall is adhesive.

30 37. The wall-climbing robot of claim 36, wherein the means of adhering to a wall is a pressure sensitive adhesive.

38. The wall-climbing robot of claim 36, wherein said means for adhering comprises an adhesive of polymerizing styrene, butadiene naphthenic oil, calcium carbonate, and hydrogenated polyterpene resin.

5

39. The wall-climbing robot of claim 35, wherein said first rotor comprises a first plurality of prominences and a first plurality of feet attached to said first plurality of prominences, and said second rotor comprises a second
10 plurality of prominences and a second plurality of feet attached to said second prominences.

40. A method of using the wall-climbing robot of claim 39, wherein no fewer than one foot on each of said first rotor
15 and said second rotor contacts a surface at any time.

41. The wall-climbing robot of claim 39, wherein at least two feet of said first plurality of feet are able to contact a surface during a least a small arc of a revolution
20 of said first rotor.

42. The wall-climbing robot of claim 41, wherein no more than two feet of the first plurality of feet contact a surface at any time.

25

43. The wall-climbing robot of claim 35 further comprising a means for the remote control of said active drive means.

44. The wall-climbing robot of claim 37 further comprising a means for the remote control of said active drive
30

means.

45. The wall-climbing robot of claim 39, wherein said first plurality of prominences are equispaced around said first rotor.

46. The wall-climbing robot of claim 45 wherein said first plurality of feet are positioned at substantially equal radii around the axis of the first rotor.

47. The wall-climbing robot of claim 35 further comprising an axle attached to said chassis, wherein said first rotor is attached proximate to an end of said axle.

48. The wall-climbing robot of claim 47 wherein said second rotor is attached proximate to an end of said axle.

49. The wall-climbing robot of claim 35 further comprising a skid mounted to said chassis able to contact a surface.

50. The wall-climbing robot of claim 35 further comprising a roller connected to said chassis able to contact a surface.

51. The wall-climbing robot of claim 49, wherein said skid is substantially remote from said first rotor.

52. The wall-climbing robot of claim 50, wherein said roller is substantially remote from said first rotor.